VOLUME CONTENTS

1988 NUMBER 1

CONTENTS

I. V. Belousov and **S. G. Sokolov**	1	Superconducting static compensators for power system active and reactive powers
R. K. Pamfilov	12	Structural analysis of electrotechnical apparatus
V. V. Zhulovyan, A. V. Komarov and **I. F. Mainik**	32	On calculating gap permeance for one- and two-sided toothing
S. I. Kutuzov and **N. G. Shirokov**	44	The parameters of an induction motor as a source of higher harmonics
M. J. Weimann	49	How stability and oscillation damping are influenced by interconnection of power systems
V. N. Tsoi	59	Electromechanical conversion of energy in multi-winding multi-rotor synchronous machines
V. M. Lupkin	75	On unexcited non-salient-pole synchronous machine stability
E. S. Fridzhibashyan	84	More effective electric modelling of electric machine magnetic fields
I. V. Litkens, R. Sh. Abramyan and **S. L. Chilinggaryan**	92	Determination of the dominant form of electro-mechanical oscillations in a power system
O. V. Bogdanov and **A. G. Ovsyannikov**	102	The voltage distribution along extra-high-voltage line insulator strings
Yu. P. Sonin and **Yu. I. Prusakov**	111	The starting characteristics of a doubly-fed machine in operation as a valve motor
V. D. Arion	121	Statistical-probability equivalents of complex power supply systems
	142	Abstracts of papers not translated from *Elektrichestvo*, Nos 1–3, 1988

1988 NUMBER 2

CONTENTS

N. V. Shilin	1	How to increase the rupturing capacity of oil circuit-breakers

O. V. Volkova, V. G. Golovnya, A. R. Koryavin, M. V. Burmistrov, M. I. Goldstein, A. V. Zubrilin and G. I. Kitaev	9	How rain influences the electric strength of supporting insulating structures during switching surges
V. V. Rudakov, V. A. Dartau, T. O. Rossko and A. Ye Kozyaruk	18	A frequency-controlled synchronous electric drive with a vector subordinate control system
V. I. Dobrozhanov, E. B. Bochkarev and V. M. Nelyubov	26	The use of microprocessors for group control of synchronous motor reactive power
N. F. Il'inskii and M. A. Popov	30	Similarity theory in electromechanics — a review
K. A. Zveltov and S. A. Kuchai	42	The theory and application of resonance multiplication of voltage
V. G. Arakelyan, L. A. Dar'yan and A. K. Lokhanin	52	Insulating liquid decomposition when acted upon by partial discharges, heat and an ultrasonic field
V. V. Krokhin, O. N. Khmaruk and Yu. M. Shamalev	62	A study of the irreversible component of magnetic induction
G. N. Aleksandrov, W. I. Bergman, R. S. Burkhanov and S. I. Vyalov	68	How atmospheric pressure influences the discharge voltages of high-voltage transmission insulation structures
R. K. Borisov, V. P. Larionov, Ye. N. Prokhorov and A. V. Reutskii	75	The thermal effect of a moving electric arc on coated metal electrodes
P. A. Kuntsevich	82	The asynchronous generator as an automatically tuned self-oscillatory system
G. Ch. Shushkevich	96	The electrostatic problem for an open spheroidal shell within a cylinder
	105	Abstracts of papers not translated from *Elektrichestvo*, Nos 4–6, 1988

1988 NUMBER 3

CONTENTS

O. V. Tozoni	1	On creating the scientific knowledge base for computer-assisted analysis and design of electric apparatus
E. M. Bazelyan and M. V. Burmistrov	18	The switching surge distortion in extra-high-voltage external insulation tests
R. V. Shnell' (dec.) and P. V. Voropaev	30	Calculation of a sensitivity function for long-distance transmission line schemes
A. N. Litvinenko	39	An electromechanical manipulator with external magnetic systems
S. N. Asambaev	51	Prediction of stability of a power system from variations of its parameters of state

G. N. Aleksandrov, V. L. Ivanov, A. V. Firsov and **A. N. Afanas'ev**	60	The air gap electric strength when 50 Hz voltage is applied in the long term
A. A. Koval', A. B. Netseevskii and **V. A. Tsvetkov**	69	On the low-frequency magnetic tractive forces and vibrations in group pole shift water-wheel alternators
S. V. Gandilyan	82	Hybrid magneto-electroinductive (inductive-capacitive) electromechanical energy converters
Yu. P. Yemets and **A. V. Sorokin**	93	The design principle of magnetic systems based on force-free configurations
Ye. L. L'vov and **M. A. Molodovtsa**	103	The ferromagnetic toroid elastic deformations caused by a magnetic field
A. V. Ivanov-Smolenskii, V. I. Tsukanov and **A. V. Davydov**	113	Experimental investigation of the elastic deformations caused in ferromagnetic bodies by magnetic fields
D. G. Ashmarin and **I. A. Serikhin**	125	Experimental determination of d.c. homopolar machine electromagnetic forces
	135	Abstracts of papers not translated from *Elektrichestvo*, Nos 7–9, 1988

1988 NUMBER 4

CONTENTS

G. N. Aleksandrov, G. V. Podporkin and **Yu. G. Seleznev**	1	Shape optimization of overhead transmission line bundled conductors
R. S. Tsgoev	15	The steady states of an automatic rotary frequency-changer with a thyristor excitation system
A. A. Afanas'ev, V. Ye. Nikiforov, Yu. A. Semenov and **V. A. Chikhnyaev**	28	Electric machine stray losses and moments in operation with a frequency-changer
G. I. Mal'tsev	40	An approximate compensation method for analysis of transients in complex valve systems
A. V. Karasev	53	On selecting the method for calculating the magnetic field in the active zone of an electric machine and numerical realization of analytic solutions
V. I. Popov	61	Asymmetrical windings for hybrid electric machines
V. P. Samoseiko	77	Valve circuit stochastic phenomena during determinate disturbances
Sh. N. Khusainov	86	A method of electric circuit transformations

V. P. Vcherashnii	93	On application of artificial intelligence in power systems
M. A. Aushev, V. N. Borin and V. A. Vertikov	106	How conducting particles influence the electric strength of SF_6 insulation when electrodes have an insulation coating
F. I. Tsybulevskii	114	On forming symmetrical polyphase winding schemes
A. A. Meier	122	The potential and current distribution in an infinite conducting grid with square cells
	129	Abstracts of papers not translated from *Elektrichestvo*, Nos 10–12, 1988